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YOUNG FOLKS' PROGRAM

Fri. April 6,1928

SUBJECT: Meadow Mice.

NOT FOR PUBLICATION

ANNOUNCEMENT: Jim and his Uncle Abe, of the Department of Agriculture, seem to be having a big time watching that little wire-mesh cage. I wonder what's in it?--- Another pet of Jim's, I guess. The way it is spinning around on the wheel inside the cage there, I can't see what it is --- ah, that's it! It's a meadow-mouse-------

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JIM: Look at him, Uncle Abe! He looks like he was having a fine time, turning that wheel.

UNCLE ABE: Yes, Jim, meadow mice are playful; especially when they are young.

JIM: He didn't seem very playful awhile ago when we were handling him.

UNCLE ABE: No, at times, meadow mice are vicious little savages. They will fight rival meadow mice or strangers sometimes to the death. The mother meadow-mouse will fight anything from another mouse to a bull-dog or a man in defense of her young. But in their own families and among their own friends meadow mice are generally friendly and playful.

JIM: And the mother meadow mouse takes good care of the baby mice?

UNCLE ABE: Oh, yes, Jim. They wouldn't have much chance, if she didn't. Meadow mice are born naked and helpless. The mother meadow-mouse has to protect them and keep them warm. Did I ever tell you about the way a mother meadow mouse that I had in a cage once kept her babies warm?

JIM: No. Tell me about her.

UNCLE ABE: She had a new family one cold night in March. In the morning she was very hungry for her breakfast when I put it in her cage. But she was worried about the young getting cold if she left them for a minute.

JIM: How did you know she was worried?

UNCLE ABE: Well, she rushed out of the nest box and back several times without stopping to eat. She seemed very much disturbed.

JIM: What did she do?

UNCLE ABE: One of her nearly half-grown young, from a previous litter was in the cage. Suddenly she rushed up to that older mouse child of hers, seized it in her mouth, carried it into the nest, left it with the little naked babies to keep them warm, and went back to get her own breakfast. Soon the mouse child left the babies and came back to breakfast.

JIM: Then what happened?

UNCLE ABE:: In a flash, the mother mouse grabbed up the youngster, and with many squeaks, carried it back into the nest; back to the babies. That time, it stayed with the babies until the mother-mouse finished her breakfast.

JIM: Meadow-mice must be mighty smart.

UNCLE ABE: No, Jim, you can't say they are. They are not even so smart as a squirrel.

JIM: Do meadow-mice store up food like squirrels do?

UNCLE ABE: Oh, yes, they often store food in the autumn for future use. In fact, some of our Indian tribes used to get part of their winter food by robbing the mouse stores of ground beans, artichokes, and other roots.

JIM: I shouldn't think there would be enough food in a mouse store to make it worth while.

UNCLE ABE: Why, several quarts or a peck of beans are taken from a single cavity in their many burrows.

JIM: They don't need all that themselves, do they?

UNCLE ABE: Well, meadow mice feed fast. Meadow mice seem to eat every few hours all day and all night. Some days, when a meadow mouse is very hungry, it will eat twice its own weight in green feed.

JIM: There are a lot of meadow mice, too. They have big families, don't they?

UNCLE ABE: The number of young in a litter ranges from two to nine. And when a meadow mouse is 45 days old she is ready to start a new family. Say there were five in each litter, and all lived and started new families when they were 45 days old, the total increase from one pair of meadow mice would be over one million meadow mice at the end of a year.

JIM: Whew! If they kept that up there wouldn't be anything in the world but meadow-mice.

UNCLE ABE: No, but, of course, meadow mice don't really multiply that fast. Meadow mice have many enemies. Weather conditions and food supply also affect them.

JIM: What enemies do they have?

UNCLE ABE: Hawks and owls, and gulls, terns, herons, bitterns, ravens, crows, magpies, shrikes, jays and other birds feed on meadow mice. Skunks, minks, weasels, martens, badgers, foxes, coyotes, bobcats, lynxes, and even bears, snakes, and fish, also help keep down the number of meadow mice. Even at that meadow mice do considerable damage.

JIM: How's that?

UNCLE ABE: Some years, in some places, meadow mice get so plentiful that they eat up the crops over big stretches of country, and cause heavy losses, and a lot of human suffering. They amount to regular plagues. But as bad as are the "mouse years" and mouse plagues in local regions they are not nearly so important as the losses over the whole country in even a normal year.

JIM: How much damage do they usually do?

UNCLE ABE: Well, a hundred mice to an acre is not an unusually large number in meadows suited to them. But only ten mice to the acre, on one hundred acres of meadow would eat about eleven tons of grass or $5\frac{1}{2}$ tons of hay a year. At that rate, they cause a loss of over three million tons of hay a year.

JIM: How much would all that hay be worth?

UNCLE ABE: About thirty million dollars! Meadow mice cost farmers of this country thirty million dollars a year in hay alone. And that's not saying anything about the vegetables, and fruit trees, and shrubs damaged by meadow mice.

JIM: Well! It looks like we ought to kill off meadow mice until there is not a one left!

UNCLE ABE: It is important to keep them down. But we couldn't kill them all off if we wanted to.

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UNITED STATES DEPARTMENT OF AGRICULTURE
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YOUNG FOLKS' PROGRAM

April 13, 1928.

NOT FOR PUBLICATION

SUBJECT: Trees in Spring.

ANNOUNCEMENT: Well, Spring is here! And so are Jim and Uncle Abe. But they are just going out for a walk. Uncle Abe, you know, is from the United States Department of Agriculture. He knows a lot about trees and other growing things --- Listen to them there now --- They are talking trees right now ----------

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UNCLE ABE: Yes, Jim, it is all part of Nature's great scheme to keep the different species of trees growing. Beginning with the pussy willow in early spring and ending with the chestnut and bass wood in early summer, you see this same thing repeated year after year. Almost before they have finished one year's seed crop, the trees begin work on the next year's growth ----

JIM: How do you mean, Uncle Abe?

UNCLE ABE: Why, during the summer the trees form the buds that will bring forth the flowers and leaves next spring.

JIM: What makes trees wake up like they do in the spring?

UNCLE ABE: Well, Jim, with the first warm days, the sap begins to stir. The little root hairs growing at the tips of the rootlets deep in the earth again begin their work of collecting water from the soil.

JIM: Don't they collect anything but water?

UNCLE ABE: Oh, there are a number of things in that water. There are minerals in solution in that water. Those minerals form part of the tree's food supply. The water is gradually drawn up to the tip top twig. As warmer weather comes along the sap moves faster. In cooler weather, the rise of the sap slows down.

JIM: How long does the sap keep moving that way?

UNCLE ABE: Oh, that movement begins in the spring and keep up all through the growing season until the tree goes to sleep again for the winter. But when the first upward flow of sap starts in the spring, then comes "sugar weather" -----

JIM: What do you mean 'sugar weather'?

UNCLE ABE: That's the time of the year farmers tap maple trees to get the sap from which they make maple syrup and maple sugar. It begins in February or March and lasts for from four to six weeks, or until the buds begin to swell.

JIM: Do all maples have that sweet sap?

UNCLE ABE: Yes, all maples have sweet sap, but only two of the maples have enough to pay to use them for sugar and syrup. Those two maples, the sugar maple and the black maple, are close kin. Other kinds of maples, the red maple, silver maple, Oregon maple, and box elder, produce a little sap, but not enough to be worth while for syrup and sugar. You know how they tap the trees by boring a small hole about a half inch in diameter just into the sap-wood, don't you, Jim?

JIM: They just stick a spout in the hole and hang a bucket underneath to catch the sap as it trickles out, don't they?

UNCLE ABE: Yes, that's the idea. The buckets are emptied once a day. The collected sap is hauled to the boiling house where it is boiled down to the proper consistency for syrup or sugar. Most of the syrup and sugar comes from the Northeastern and other northern States, but other States where the sugar maple is plentiful make maple sugar, too. However, the best flow of sap comes in sections where the early spring days are sunny and warm and the nights cold and frosty. But there are other evidences of the flow of sap, Jim. I guess you've been noticing them?

JIM: What other evidences?

UNCLE ABE: Well, the upward flow of sap shows in the tree buds. On some trees, the buds that have been wrapped so tightly all through the winter, soon begin to get fatter and fatter. ----

JIM: I've noticed buds on poplars and horse-chestnuts. They shone with some sticky stuff.

UNCLE ABE: Yes, so they did. Finally, however, they couldn't keep on their overcoats. I guess you've noticed that early-blooming trees have already thrown off their winter wrappings or scales. They have burst forth into blossoms.

JIM: The pussy willows were first. They came out last month.

UNCLE ABE: Yes, you know, Jim, the flowers of the pussy willow are catkins. That is, they are composed of either scales and stamens or scales and pistils set along a single stem.

JIM: Why is it, that some pussy willows turn golden, while others stay a silvery-green?

UNCLE ABE: Those golden pussies are groups of pollen-bearing stamens, the

others are groups of pistils. The bees and flies carry the pollen from the golden pussies to the silvery-green and so help the trees produce their seed.

JIM: The alders bloomed soon after the pussy willow. Then the poplars came later in March -----

UNCLE ABE: You understand, I suppose, that the time a tree blooms depends upon the latitude in which it grows. Trees growing in a southern latitude naturally bloom earlier than those of the same species growing farther north.

JIM: Well, some trees like the silver and red maples bloom before the leaves come out, don't they?

UNCLE ABE: Yes, the flowers of both the silver and the red maples come before the leaves. The keys, or fruit, of the silver maple ripen in April or May. The scarlet keys of the red maple do not appear until May or June. Their famous relative, the sugar maple, does not bloom until May when its leaves comes out, and its keys do not ripen until September. Another early arrival is the American elm. It flowers about the same time as the silver maple.

JIM: Does an elm tree bloom? I didn't know that.

UNCLE ABE: Few folks do because the flowers are so small and inconspicious. You've seen the discarded brown scales of the flower buds, under the elm trees, I'm sure. Six weeks later, the ground or sidewalk under elm trees is covered with little flat green keys.

JIM: Dogwood blossoms come before the leaves. We are going out and pick some dogwood blossoms.

UNCLE ABE: Don't do it, Jim! Leave the dogwood blossoms on the tree where they look best. The plucked blossoms soon fade. At one time, the wood of the dogwood was thought to be worthless. Now, however, it is in demand for a number of different uses. If you break the tree for the blossoms, you will injure its usefulness and not do yourself any good either. Chances are the blossoms will be dead by the time you get them home.

JIM: Redbud trees are pretty too.

UNCLE ABE: Yes, it shares spring honors with the dogwood. Later, blooming in May, comes the yellow poplar or tulip-tree. Did you ever notice how the leaves of the yellow poplar look as if their tips had been cut off with two clips of the scissors? ---- No, Jim. You'll get more pleasure out of seeing the trees growing, than you'll ever get pulling the blossoms for wildflowers.

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YOUNG FOLKS' PROGRAM Fri. April 20, 1928.

(NOT FOR PUBLICATION)

SUBJECT: Making the Garden Pay

ANNOUNCEMENT: Well, if there isn't Jim, hoeing his garden! It looks as if the boy was going to have a good little vegetable garden, too. --- And there's Uncle Abe leaning on the fence watching Jim work. I guess Uncle Abe is telling him how they garden at the Department of Agriculture ------- Didn't I tell you!-----

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UNCLE ABE: You'll find it much easier to kill a weed just about the time it peeps through the ground, Jim, than you will after it gets well started. The main object of cultivation is to keep the weeds from getting started. Weeds rob garden plants of plant food and moisture.

JIM: Oh, I'm keeping the ground stirred, so as to keep down the weeds and prevent a hard crust forming, as you told me --- That rain packed down the top soil and started a lot of weeds ---

UNCLE ABE: Yes, a good rain always starts a lot of weeds. It is a good idea to get right after them, as soon as the ground is dry enough to work. It would be a good idea for you to mulch your garden, too.

JIM: What is that for?

UNCLE ABE: Mulching not only keeps weeds from growing, but it helps save moisture during dry weather. Some gardeners use a mulch of three or four inches of straw around their tomato plants to help keep the tomatoes clean. Litter from the chicken house is good for mulching garden crops. Or you might use lawn clippings.

JIM: Would leaves be all right to use?

UNCLE ABE: Well, leaves make a good mulch for some crops. But it's a job to keep them where you want them. Every time the wind blows the leaves scatter all over the garden.

JIM: How about watering, Uncle Abe? How often should I water my garden?

UNCLE ABE: Well, it is not a very good plan to sprinkle your garden often. It is best to water the plants only when they really need it and then give the

ground a good soaking. Light sprinkling every day causes the roots of the plants to grow near the surface. Then when the broiling hot sun strikes those roots it kills them. That is where the mulch comes in. Even when the roots get close to the surface, they are protected by the mulch.

JIM: What is the best way to water plants? Would you sprinkle them?

UNCLE ABE: No, where you sprinkle the crops from above like rain, it is hard to get the water uniformly distributed. While it is true some market gardeners use systems of overhead watering which distribute the water very evenly, it is hard to put water evenly where you water with a hose.

JIM: Then how can I water my garden?

UNCLE ABE: Probably the best way for you, Jim, is to use the furrow system of watering.

JIM: What's the furrow system?

UNCLE ABE: Well, where land is reasonably level, as yours is, you can make little furrows along the rows. You know how to make a furrow with the corner of your hoe ----

JIM: Sure ----

UNCLE ABE: Well, after you have run the furrows along the rows, then just lay the end of the hose in the furrow. Let the water run freely until the furrow is filled. Then you can move the hose to the next furrow.

After the water in each furrow has settled away, draw a little dry earth into the furrow to prevent the wet soil from baking ----- By the way, Jim, what are you growing?

JIM: I've planted peas, radishes, beets, carrots, potatoes, and spinach.

UNCLE ABE: Some of those will be off the ground by the middle of June --- what are you going to plant then?

JIM: I hadn't thought of that.

UNCLE ABE: Well, you know, Jim, garden profits depend largely on keeping the land working every minute. Too many gardeners gather their peas and early beans and other early crops; and then let the ground go to weeds all the balance of the summer.

JIM: What should I plant?

UNCLE ABE: You should make two, and preferably three plantings of peas. You will also want to plant beans two or three different times during the season. It is a good idea to make a second or even a third planting of beets, so as to have fresh, young beets for the table all summer. In most sections of the country, gardeners plant late potatoes after the peas are gathered. You see you don't

have to wait very long to remove the peas, because the pods come off nearly at the same time. Late cabbage can be grown after several of the early crops.

JIM: Would you make the second planting on the same ground the first was on?

UNCLE ABE: Oh, no, Jim. Don't do that. It isn't a very good plan to follow with the same crop. Beans should not follow beans, or late cabbage follow early cabbage. Late cabbage can follow peas. Late beans can follow spinach, peas or some other crop. The main thing, however, is to plan your garden so that all the ground will be kept working all the time. I know a boy who made a nice lot of money just growing snap beans. He began planting snap beans in his garden just as early as it was safe to plant them, and he kept right on planting a few rows of snap beans every week. When frost came in the fall he was still gathering and selling snap beans. Of course, he didn't live in a section where the Mexican bean beetle has put in his appearance. Beans should not be grown where the Mexican bean beetle is. Bantam sweet corn or Marglobe tomatoes are grown where beans can't be grown.

JIM: What kind of greens could I grow in the summer?

UNCLE ABE: Well, of course, spinach is all right in the spring while the weather is fairly cool. When hot weather comes, however, spinach does not do so well. But there's New Zealand spinach, which grows well in the summer. It is not really spinach at all.

JIM: How do you plant it?

UNCLE ABE: You sow the seed in rows about three feet apart just as soon as the soil gets warm. Then you can go on gathering the tips of the stems with their thick fleshy leaves for greens all summer long. The hotter the weather the better New Zealand spinach seems to like it. Another good summer greens, is Swiss chard. Swiss chard is a kind of beet that grows only tops, you know.

As I said before, Jim, the main thing is to keep the garden working for you all the time.

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UNITED STATES DEPARTMENT OF AGRICULTURE
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YOUNG FOLKS' PROGRAM Fri. Apr. 27/28.

(NOT FOR PUBLICATION)

SUBJECT: Fire in the Woods.

ANNOUNCEMENT: Uncle Abe and Jim are going to leave us. They are getting in the automobile now. But hurry up, let's get in the machine with them. It is such a pretty day and they are going right through the woods --- we can ride a little way with them and hear what they have to say ------

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UNCLE ABE: All right, Jim. Let's go!

JIM: The car is certainly running fine today ---

UNCLE ABE: Yes, and look at the scenery, too. Did you ever see things look better?

JIM: But look way, way over there. That looks like a big cloud of smoke, Uncle Abe.

UNCLE ABE: It certainly does, Jim. The woods over there must be on fire. We'll soon be there, though, and we'll see what's up. It doesn't take much to start a fire in the woods. --Did I tell you about that little girl and the fire in the woods?

JIM: No. What did she do?

UNCLE ABE: Well, she was going through the woods on the way to the country church one Sunday morning not long ago, and she saw a cigarette smoldering in the dry leaves near the road. She paid no attention to it, but when she had gone about twenty steps farther, she heard a noise. She thought it was an automobile coming up behind her!

JIM: What was it?

UNCLE ABE: Why, it was that fire flaring up. That smoldering cigarette stub had set fire to the leaves. The fire was spreading fast. The little girl ran to a house nearby for help. She found the man of the house, but before they could get back to the fire, it had grown too big for one man to fight alone. The man ran to a nearby church for help. About forty men and boys came back with him. All forty fought that fire until they finally put it out about eleven o'clock that night after it had burned over thirty acres.

JIM: If that girl had put it out when she first saw it, they wouldn't have had all that trouble.

UNCLE ABE: That's just the point, Jim. She could have saved thirty acres of woodland and kept those forty men and boys from working all Sunday, if she had

tramped out that smoldering stub when she first saw it.

JIM: Yes, and if whoever threw the cigarette down in the first place had put it out, there wouldn't have been any trouble either.

UNCLE ABE: Exactly. If people would only realize the danger that lies in lighted cigarettes and cigar stubs and in matches thrown carelessly away, or in a few smoldering embers of a camp fire, or in a handful of leaves or grass burning beside the road, they would save a heap of trouble and thousands of dollars worth of timber every year.---------

JIM: --- Look there, Uncle Abe! --- Look over there! --- There has been a fire there --

UNCLE ABE: -- There certainly has. - Look at those blackened trunks and branches. And look how it burned all the leaves and brush off the ground. It was evidently eating close to the barn over there. That man must have had a real fight to save his home.

JIM: -- What do you guess caused it?

UNCLE ABE: -- I guess that man probably decided to burn brush. He didn't take proper care of the fire, evidently. The wind came up. The fire got out of bounds, and spread to the woods. The way some of those fences are burned, it looks as if he was lucky to save the house. Fires at this time of the year are usually caused by brush burning, or smokers, and also by sparks from railroads Campers come later.

JIM: Lightning causes a lot of fires, too, doesn't it?

UNCLE ABE: Yes, especially in the West. Many lightning fires occur in out-of-the-way places in the mountains and sometimes burn for days before they are discovered. I'd say about one-tenth of all forest fires are caused by lightning.

JIM: What causes the other nine-tenths?

UNCLE ABE: Man. Man is responsible for about nine-tenths of the forest fires in this country.

JIM: How?

UNCLE ABE: Smokers are the worst offenders. Railroads come next. Brush-burning is third. Careless campers do their share, too.

When I worked in the National Forests, I remember we had quite a time putting out a fire started by some careless campers. Every available man was enlisted to fight the fires ---

JIM: What did you do, Uncle Abe?

UNCLE ABE: Well, the fire-fighters worked under the direction of the Forest officers. The crew I was with mostly dug shallow trenches, while others built

back-fires. You know, men fighting fires must be as systematically organized as an army on the battle front. The men who run the National Forests have developed an elaborate system for fighting fires, as well as for spotting them. All during the danger season, the forests are patrolled and a careful lookout is kept from high points. Extra men are hired for fire duty. When a fire is discovered word is telephoned to headquarters where crews are organized, equipped and sent out to fight it in the shortest possible time. Since I've seen what fires can do in the woods, I'm always sure that my pipe ashes or cigar or cigarette stubs are dead before throwing them away. And I never throw them into brush, leaves, or needles. And I never burn slash or brush in windy weather or while there is the slightest danger that the fire will get away.

JIM: We are going camping soon. You said campers caused fires?

UNCLE ABE: Sure, Jim, you should be very careful with fire when you are camping. Be sure your match is out before you throw it away. Break it in two before you cast it aside.

And before you build a fire, scrape away all inflammable material from a spot five feet in diameter. Then dig a hole in the center of that bare spot and build your camp fire in that hole. Never build it against a tree or log or near brush.

JIM: I'll remember that ---

UNCLE ABE: Yes, and never break camp until your fire is out -- dead out. When you put out the camp fire, stir the coals and soak them with water. Turn small sticks and drench both sides. Wet the ground around the fire. If you can't get water, stir in dirt and tread it down until it is packed tight over and around the fire. Always be sure the last spark is dead---------- But, I guess we'd better stop here, Jim, and let these other folks out.

JIM: Good-bye, all of you!

UNCLE ABE: Good-bye!

JIM: Good-bye!

UNCLE ABE: Good-bye! ---- And do be careful with fire in the woods.

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